

Docket No. AB-164U

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Claim 1 (withdrawn):** A stimulating lead system comprising:

- a body defining a lumen;
  - a distal tip of the body defining a through-hole;
  - at least one electrode positioned distally on the body; and
  - at least one conductor disposed in the body providing electrical connection to the at least one electrode,
- wherein the at least one conductor forms a winding surrounding the lumen, and  
wherein the through-hole and lumen allow passage of at least a microelectrode, and  
wherein the distance between the distal end of the microelectrode and the distal end of the lead is variable.

**Claim 2 (withdrawn):** The lead system of Claim 1, wherein the through-hole and lumen allow passage of the microelectrode, wherein the microelectrode comprises an independently slidable microelectrode wire within an independently slidable electrode tube.

**Claim 3 (withdrawn):** The lead system of Claim 1 further comprising a protective tube disposed in the lumen defined by the body.

**Claim 4 (withdrawn):** The lead system of Claim 3 wherein the protective tube is self-aligning.

**Claim 5 (withdrawn):** The lead system of Claim 1, wherein the distal tip comprises an electrode.

**Claim 6 (withdrawn):** The lead system of Claim 1, wherein the distal tip comprises an insulating material.

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**Claim 7 (withdrawn):** A stimulating lead system comprising:  
an isodiametric body defining at least one lumen, wherein each lumen allows passage of only a conductor;  
a distal tip of the body, which tip is solid;  
at least one electrode positioned distally on the body; and  
at least one conductor providing electrical connection to the at least one electrode, wherein the at least one conductor comprises a cable.

**Claim 8 (withdrawn):** The lead system of Claim 7, wherein the distal tip comprises an electrode.

**Claim 9 (withdrawn):** The lead system of Claim 7, wherein the distal tip comprises an insulating material.

**Claim 10 (withdrawn):** A stimulating lead system comprising:  
a body defining at least one lumen;  
a distal tip of the body;  
at least one electrode located on the body, proximal to the tip; and  
at least one conductor providing electrical connection to the at least one electrode, wherein the body further comprises a stability feature proximal to the at least one electrode and further comprises a stability feature distal to the at least one electrode, and wherein the lumen allows passage of at least a stylet used to straighten the body during insertion of the lead.

**Claim 11 (withdrawn):** The lead system of Claim 10, wherein the distal tip comprises an electrode.

**Claim 12 (withdrawn):** The lead system of Claim 10, wherein the distal tip comprises an insulating material.

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**Claim 13 (currently amended):** A lead introduction system for introducing a stimulation lead into a patient's brain, the system comprising:

a stereotactic frame;

a first cannula dimensioned to be larger than a predetermined hole size in the patient's skull to prevent entry into the brain that remains external to the body and which first cannula is held in a substantially fixed position by the stereotactic frame; and

a second cannula slidable within the first cannula and having a proximal end extending beyond the proximal end of the first cannula and a distal end extending beyond the distal end of the first cannula and into the body,

wherein the second cannula is dimensioned to permit insertion through the predetermined hole size in the patient's skull;

wherein the second cannula is supported by the first cannula; and

wherein at least a the stimulation lead is insertable through the second cannula.

**Claim 14 (canceled)**

**Claim 15 (currently amended):** The lead introduction system of Claim 13 wherein the second cannula includes a macroelectrode attached to the second cannula ~~macroelectrodes~~.

**Claim 16 (currently amended):** A method of introducing a brain stimulating lead into a patient's brain comprising:

holding a first cannula in a substantially fixed position completely external to the brain body;

slidably supporting a second cannula with the first cannula;

positioning the second cannula with a proximal end extending beyond the proximal end of the first cannula and a distal end extending beyond the distal end of the first cannula and so that the second cannula extends at least partially into the patient's brain body; and

inserting at least a the brain stimulating lead through the second cannula.

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**Claim 17 (original):** The method of Claim 16 further comprising using a stereotactic frame to hold the first cannula in a substantially fixed position.

**Claim 18 (currently amended):** The method of Claim 16 further comprising using the second cannula as a macroelectrode, wherein the macroelectrode is attached to the second cannula.

**Claim 19 (withdrawn):** A method of implanting a brain stimulating lead, consisting essentially of:

- identifying a theoretical target for brain stimulation;
- creating a point of entry into the brain;
- inserting a lead and a microelectrode into the brain to a position above the theoretical target;
- advancing the microelectrode toward the theoretical target to locate a stimulation target;
- advancing the lead to the stimulation target located by the microelectrode;
- performing test stimulation with the lead to confirm location of the stimulation target;
- removing the microelectrode; and
- securing the lead.

**Claim 20 (withdrawn):** The method of Claim 19 wherein the lead comprises at least one stability feature.

**Claim 21 (withdrawn):** The method of Claim 19 wherein inserting the lead and the microelectrode comprises:

- holding a first cannula in a substantially fixed position external to the body;
- slidably supporting a second cannula with the first cannula;
- positioning the second cannula with a proximal end extending beyond the proximal end of the first cannula and a distal end extending beyond the distal end of the first cannula and into the body; and

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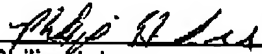
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inserting the lead and the microelectrode through the second cannula.

**Claim 22 (withdrawn):** The method of Claim 19 wherein at least one of identifying the theoretical target, creating the point of entry, inserting the lead and the microelectrode, advancing the microelectrode, and advancing the lead comprises using a stereotactic frame.

Respectfully Submitted,

  
Philip H. Lee  
Reg. No. 50,645

Address all correspondence to:  
Bryant R. Gold  
Advanced Bionics Corporation  
25129 Rye Canyon Road  
Valencia, CA 91355  
Fax: (661) 362-1507 or (760) 788-9629

Direct telephone inquiries to:  
Philip H. Lee  
(661) 362-1964

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